

REMARKS

Claims 1-20 are pending in the present application, of which claims 1, 12, and 20 are independent claims.

102 Rejections

Claims 1-20 were rejected under 35 U.S.C. 102(e) as being anticipated by Tsourikov, *et al.* (U.S. Patent Number 6,167,370), which is commonly owned by Applicant, each having been assigned to Invention Machine Corporation, Boston, MA.

For a rejection under 35 USC 102(e) to stand, the cited reference must teach each and every element of the claim. This is not the case presently.

With particular regard to claim 1, Applicant contends that claim 1 is not anticipated by Tsourikov for several reasons.

At a general level, it should be understood that the Tsourikov does not generate *answers* to questions, does not include a *problem statement generator*, does not include a *knowledge base of answers*, and does not include a knowledge base of answers where the *answers have the form S-A-O* – all as in claim 1. Rather, Tsourikov teaches a system for improved document search and storage. (see Tsourikov, Abstract)

Tsourikov receives a “user request” (which is not a question) and semantically processes the request to find SAOs therein. Using keywords, candidate documents are found and downloaded. These downloaded candidate documents are semantically processed, and SAO structures are determined for each candidate document. Candidate documents that have SAO structures matching those from the user request are stored as “relevant” to the initial user request. That is the basic teaching of Tsourikov. A search, e.g., a Web search, for documents yields better results when SAO structure matching is used. There is nothing about providing *answers* in Tsourikov, only storing relevant documents. (see Tsourikov, Abstract; col. 2, lines 20-46)

Tsourikov includes other features, such as generating new SAO structures and document summaries, but, again, none of this teaches finding *answers* to an input question.

Therefore, Tsourikov does not teach the claim 1 subject matter:

A system enabling a user to ask a question (query) and for providing the user with one or more answers or solutions to such question

Claim 1 also includes the following element, which is not taught by Tsourikov:

a knowledge base comprising a set of answers having the form S-A-O (subject-action-object), and further comprising links to documents corresponding to the set of answers;

The OA cited Tsourikov FIG. 3, item 18, DB of SAO structures and col. 6 lines 45-51 as teaching this element. Applicant notes that in FIGs. 2 and 3 box 18 indicates storage of SAO structures from the user's request and candidate documents. But these SAO structures are not *answers*. The stored SAO structures from the candidate documents are merely compared with SAO structures from the original user request – where a match indicates that a candidate document is a *relevant* document. While SAO structures of a relevant document may be used to generate summaries of the document, the summaries are also not answers to questions.

Claim 1 also includes the following element, which is not taught by Tsourikov:

a problem statement generator configured to receive a natural language query from a user apparatus and to automatically generate a problem statement in the form A-O, S-A, S-X-O or S, where S, A and O are query elements in the natural language query, where X indicates absence of a query element;

The OA cited col. 5, lines 60-67 and col. 5 line 60 – col. 6, line 22 as teaching this element of claim 1. The cited portions of Tsourikov do not mention a problem statement generator. While Tsourikov does discuss extracting S-A-Os from a user's request, a problem statement in the claimed forms is not generated. Rather, the extracted SAOs are then normalized. (see, e.g., Tsourikov FIGs. 12 and 13) The normalized SAOs are not problem statements in the claimed forms. Tsourikov says that at col. 6, lines 18-22:

... These users request SAO structures are stored and applied in two following steps (i) synthesis of key word/phrases of user request; (ii) a comparative analysis of SAO structure of each sentence of each candidate documents as described below.

As explained in the present application, with regard to item 24 on page 12, the problem statement is specifically formulated in the claimed S-A-O forms to facilitate searching for *answers* in the knowledge base. Whereas in Tsourikov the searching is done using keywords - not the SAO structures, and that search is for candidate documents, not answers. The next element of claim 1 describes the searching using the claimed problem statements:

a server coupled to the knowledge base, the server configured to search the knowledge base using the problem statement to find at least one S-A-O answer, wherein the A and O, or S and A, or S and O or S query elements in the problem statement are also in the at least one S-A-O answer; and

The OA cited “Fig. 2, his web system, item 10, his local DB as the knowledge base” as teaching this element of claim 1. But as discussed above, Tsourikov’s system is not taught as generating *answers* – it only finds relevant documents.

Note the answer generation examples in the present application beginning on page 17. In example 1:

<u>Question:</u>	<i>How do I reduce cholesterol?</i>
<u>Problem Statement:</u>	<i>reduce - cholesterol</i> (“A-O” form)
<u>Answer(s):</u>	<i>Dietary measure-reduce-cholesterol saturation</i> <i>Clofibrate-reduce-cholesterol</i> <i>Saturation-reduce-serum-cholesterol level</i>

Tsourikov has no teaching on this. These answers are in S-A-O form. Note that *reduce* (A) and *cholesterol* (O) also appear in each answer produced by the system, just as claimed. For example, in the answer “Dietary measure-reduce-cholesterol saturation,” both *reduce* (A) and *cholesterol* (O) appear in the generated answer. Tsourikov does not

teach the generation of answers to an input question, nor the generation in the claimed forms.

Claim 1 also includes the feature:

a communication device configured to transmit the at least one answer S-A-O and associated active document links to the user apparatus.

The OA cited FIGS. 2 and 3 of Tsourikov as teaching displaying of information to the user. Applicant appreciates that Tsourikov can display document summaries and even documents. However, Tsourikov does not transmit or display *answers* to an original user question in S-A-O form. In Tsourikov, the SAO structures are used for determining which candidate documents are relevant, but not for generating answers.

In conclusion, Tsourikov teaches a document retrieval system, with no explicit or inherent capability to generate answers to a user's question, particularly where the answer has the S-A-O form, "wherein the A and O, or S and A, or S and O or S query elements in the problem statement are also in the at least one S-A-O answer." Since each and every element of claim 1 is not explicitly or inherently taught by Tsourikov, claim 1 is not anticipated under 35 USC 102(e). Reconsideration and withdrawal of the rejection are requested.

Claims 2-11 depend from claim 1, and are not anticipated by Tsourikov for at least the same reasons. Reconsideration and withdrawal of these rejections is requested.

Claim 12 is an independent claim that includes elements consistent with those discussed above. Accordingly, Tsourikov does not anticipate the system of claim 12 for similar reasons. Reconsideration and withdrawal of the rejection are requested.

Claims 13-19 depend from claim 12, and are not anticipated by Tsourikov for at least the same reasons. Reconsideration and withdrawal of these rejections is requested.

Claim 20 is an independent claim that includes elements consistent with those discussed above. Additionally, Tsourikov does not teach converting a problem statement

into a URL query, and sending the URL query to a semantic server having access to the knowledge base.” Even if Tsourikov generates a URL query, it does not teach that the URL query is generated from “a problem statement in the form of A-O, S-A, S-X-O or S from the natural language user query, where S, A and O are query elements in the natural language query.” Accordingly, Tsourikov does not anticipate the method of claim 20. Reconsideration and withdrawal of the rejection are requested.

With particular regard to claims 2 and 13, Tsourikov does not teach answer S-A-Os, so does not search for or identify documents having answer S-A-Os. And Tsourikov further does not teach storing new answer S-A-Os in a knowledge base of answers.

With particular regard to claims 3 and 14, Tsourikov does not search for answer S-A-Os, so could not determine that they do not exist in a knowledge base of answers. And also does not teach conducting the search “automatically” in response to such a determination.

With particular regard to claims 4 and 15, Tsourikov does not teach “wherein said server is programmed to prompt the user for a command to initiate the search of the World Wide Web.” Applicant notes that the cited portion of Tsourikov teaches searching the Web for candidate documents, but it does not say that a server prompts the user to initiate the search, particularly to identify documents that include new answer S-A-O, each comprising query elements in the problem statement, and adding the new answer S-A-Os to the knowledge base, as in claim 2, from which claim 4 depends.

With particular regard to claims 5 and 16, Tsourikov does not teach “wherein the user apparatus converts human voice signals into said problem statement.” The rejection relies on the teaching of a secondary reference, US Pat. No. 5,774,833 to Newman. While Applicant appreciates that Tsourikov incorporates Newman by reference in its Background section (col. 2, lines 4-6), Applicant believes that such an incorporation by reference does not satisfy the requirements of 35 USC 102(e), in spirit or scope.

MPEP 2131.01 identifies explicit situations where a second reference is permissible in a 102 rejection, stating:

2131.01 Multiple Reference 35 U.S.C. 102 Rejections

Normally, only one reference should be used in making a rejection under 35 U.S.C. 102. However, a 35 U.S.C. 102 rejection over multiple references has been held to be proper when the extra references are cited to:

(A) Prove the primary reference contains an "enabled disclosure;"

(B) Explain the meaning of a term used in the primary reference; or

(C) Show that a characteristic not disclosed in the reference is inherent.

Newman does not fall under any of these categories. Therefore, if the teaching of Newman is combined with the teaching of Tsourikov to form a rejection, that rejection should be made under 35 USC 103, not 102(e). And since Tsourikov and the present application are commonly owned, a rejection under 35 USC 103 that relies on Tsourikov would be improper.

Further, Tsourikov identifies Newman as a flawed approach to document searching, one which Tsourikov offers advantages over. Newman is not taught as part of the teaching of Tsourikov's invention (i.e., in the remainder of the specification of Tsourikov). Applicant notes the Newman mentions that its input device 201 can be a microphone used for entering data, but Newman makes no mention of generating answers using the claimed problem statement, and certainly makes no mention of converting a voice input into the claimed problem statement. And Tsourikov makes no mention that a similar input device would be useful in its system. Therefore, even if Tsourikov and Newman were combined, they still would not teach the subject matter of claims 5 and 16.

With particular regard to claims 6, 7, 9, 10, and 17-19, which include various aspect of voice input and audio output within the context of the system of claim 1, since Tsourikov does not teach a system as in claims 1 and 12, it follows that Tsourikov also does not teach the subject matter of these claims.

With particular regard to claim 8, Tsourikov does not teach "receiving said at least one answer S-A-O," as discussed above.

With particular regard to claim 11, Tsourikov does not teach "wherein each of the at least one answer S-A-Os is represented in a sentence format," as claimed. The cited portion of Tsourikov teaches the output of summaries of relevant documents. But a summary is not an *answer* to a question. Tsourikov says that it uses matched SAO structures to synthesize natural language summary sentences, but does not say that these sentences include SAOs. And Tsourikov does not generate *answers* to an input questions; document summary sentences are not answers to an input question.

Closing Remarks


Tsourikov teaches a document retrieval system, and not a system that produces answers to input questions, where the answers have S-A-Os from the original question. Tsourikov and Newman should not be combined under 35 USC 102(e) and even if combined do not teach claim 5.

It is submitted that all claims are in condition for allowance, and such allowance is respectfully requested. If prosecution of the application can be expedited by a telephone conference, the Examiner is invited to call the undersigned at the number given below.

In connection with this matter, please charge any otherwise unpaid fees which may be due, or credit any overpayment, to Deposit Account No. 501798.

Respectfully submitted,

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